

## Sub-County Statistical Analysis & Visualization using ArcGIS Pro & Python

Robert Gottlieb and Jenny Durica - ISDH

9:30 - 10:20 am

### Bios:

**Jenny Durica** serves as the Director of Maternal and Child Health Epidemiology at the Indiana State Department of Health. Jenny oversees analysis, translation, and dissemination of maternal and child health data, focused especially on the prevention and reduction of infant mortality. Jenny works toward creating a culture of data-driven decision making that addresses health disparities and helps all Hoosier families thrive. Jenny holds a bachelor's degree in Biology and International Studies from Anderson University and a Master of Public Health degree from IU Richard M. Fairbanks School of Public Health. When she's not at work, Jenny is usually holding, chasing, cleaning or laughing with her two young children.



**Robert Gottlieb** has served as a GIS Data Analyst in the Indiana State Department of Health (ISDH) Epidemiology Resource Center (ERC) for three years. He develops maps, spatial analysis, and applications for partners throughout the department. He specializes in social risk assessments and vulnerabilities. He graduated from Cornell University with a Bachelor of Science degree in Atmospheric Science in 2009, the University of Oklahoma with a Master of Science degree in Meteorology in 2011, and the University of South Carolina with a Master of Science degree in Geography in 2015.



### Abstract:

This presentation will feature a method of analyzing and visualizing sub-county statistics called Geographically Uniform Multi-Scale Smoothing (GUMSS). GUMSS allows sharing of aggregated health data at a sub-county scale while protecting privacy. It also avoids using geographies of inconsistent sizes (e.g. Census tracts and zip codes) while accounting for differences in the sizes of urban and rural populations. Results are analyzed and displayed on a grid of diamonds. GUMSS will be applied to a case study of birth risk factors and infant mortality. The process includes ArcPro and Python, and the results can be shared using ArcGIS Online.